ARMY, DIA and JCS review(s) completed.

CRC, 2/13/2003

DP/OSR
11 Feb 1969

VIETNAM WAR STATISTICS

THE NUMBERS GAME

I. The Vietnam War is probably one of the most thoroughly studied and analyzed wars in history. It is not, however, a conventional war in which progress can be measured by the amount of territory taken and held by one side or the other.

A. Thus, for better or for worse, a broad range of statistical measures has been derived and is universally used to tell us how the war is going. Since most of these statistics are a result of military operations, Washington is almost completely dependent on field sources for its figures.

B. Questions do arise, however, regarding the manner in which the books are kept. And in some instances the Washington community has an independent capability to construct its own data series.

C. The statistics produced by Saigon on the war in Vietnam are of three fundamental types:

1. Bookkeeping Data - these are simple compilations of data on such things as Allied strengths, ARVN desertions, PWs, number of sorties and tons of ordnance dropped. These series generally present few problems to the Washington consumer and are accepted as provided by the field.

2. Operational Data - these are the series that measure the results of allied military operations. Examples of these are enemy truck losses due to bombing; enemy

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killed-in-action or KIAs; and enemy supply losses.

a. Most of these series often involve elements of judgment or are collected under difficult and sometimes dangerous conditions. Thus you will find that the Washington analyst often superimposes his own judgment on the field's data. Or the analyst will manipulate the data to reflect information gained from other intelligence.

3. Estimative Data - these are data series that are in fact intelligence estimates made from raw intelligence. Examples of these series include infiltration, losses from sickness, desertions and order of battle.

a. The estimative type of data are produced from such materials as captured documents, interrogation reports, [redacted] Because 25X1 these same materials are available in Washington the analyst here is in a position to make an independent estimate. He sometimes, but not always, arrives at different estimates from the same intelligence information.

D. I would like now to review some of the more important series that are used in Washington to evaluate the war, to discuss how the analyst evaluates the series, and what, if any, changes he makes in the data.

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BOMB DAMAGE ASSESSMENT

II. The air war in Laos is so predominantly an interdiction campaign against trucks and logistics facilities that the primary yardstick for bomb damage assessment is the number of trucks destroyed or damaged.

A. Due to the thick jungle canopy and the enemy's control of the Ho Chi Minh trail our opportunities for photographic or ground observation of the effects of bombing in Laos are limited. We are forced to use pilot and forward air controller reports -- OPREP-4s -- as the primary source of information on trucks sighted, damaged, and destroyed, and on secondary fires and explosions.

B. Truck sightings provide a crude but useful measure of the number of trucks in an area and the amount of traffic moving over various roads during a given period of time. The number of trucks sighted, however, depends on the weather, and the number of sorties flown. The reported data does not indicate whether observed trucks are moving north or south. Despite its limitations, truck sighting data is useful in analyzing traffic flows, especially when used in conjunction with sensor and roadwatch reports that also report traffic movements.

C. Trucks Damaged and Destroyed provide the main measure of the effectiveness of the air war over Laos.

1. The data on trucks destroyed and damaged has been suspect, however, throughout the bombing of both North Vietnam and Laos.

a. Pilots flying at high speeds or under conditions of poor visibility have difficulty determining whether an attacked truck has been destroyed, damaged, or missed entirely, and most trucks are attacked at night.

b. Aerial photography seldom confirms the large number of trucks reported destroyed.

c. Roadwatch reports indicate that, despite the heavy reported truck losses with Laos, almost as many trucks move undamaged out of the Laotian Panhandle as moved originally into the Panhandle.

2. Reports from Forward Air Controllers (FACs) are more accurate than pilot reports. FACs fly slower and lower, and they are usually thoroughly familiar with the area under observation. However, they still face the same problems as other pilots in accurately identifying and assessing the effectiveness of attacks against moving targets.

3. Both DIA and CIA have long deflated both pilot and FAC reports of trucks destroyed by arbitrarily assuming that only 75 percent of the reported number of trucks destroyed are in fact destroyed and 25 percent of trucks reported damaged cannot be repaired. Despite these adjustments, reported truck losses were so great in 1968 in North Vietnam and Laos that the attrited North Vietnamese inventory of trucks was

rapidly reaching a critical stage when there was an abundance of evidence that there was no shortage of trucks in North Vietnam or Laos.

4. Therefore, both CIA and DIA, feel that truck loss figures should be used with the greatest of caution and, even then, only as a measure of general trends in the air war.

D. Secondary explosions and fires, as reported by pilots, give another gross measure of the effectiveness of airstrikes against supply targets. But it is almost impossible for pilots to count and evaluate these explosions with a high degree of accuracy. Some intelligence agencies estimate the tons of enemy supplies lost to air attack by multiplying the number of pilot reports of secondary explosions and fires by an arbitrary average weight for each incident. We believe that little confidence can be attached to such estimates and again prefer to use these data only as a rough indicator of the course of the air war.

ENEMY SUPPLY LOSSES

III. MACV is the principal source for data on enemy supply losses in South Vietnam.

A. Reliability of the Reports

1. Reports of captured ammunition and weapons are considered to be reasonably accurate but it is believed that reports of enemy losses of bulk foodstuffs are less reliable.

2. Reporting by US forces is considered more accurate than reporting that comes from ARVN forces, especially those in IV Corps.

3. These faults are not critical and when they are collated with intelligence obtained from interrogation reports and captured documents, we feel that we can be reasonably confident of our estimates of enemy supply losses due to ground actions.

4. I would note here that a particularly troublesome area is measuring ground losses due to air action. A lack of ground follow-up and the inaccessibility of many areas means that we have no handy data series for these losses. Both CIA and DIA do however make very rough estimates on the basis of captured documents and interrogation reports.

B. Nature of Reports

1. Ammunition is usually reported in terms of captured or destroyed rounds of small arms, ammunition, rounds of crew-served weapons ammunition, and numbers of grenades. Frequently, reports contain the number of cases of various types of ammunition captured or destroyed.

2. Weapons are usually reported in terms of the number of small arms and crew-served weapons captured.

3. Food is reported in terms of the number of rice sacks, or as rough estimate of the total pounds, or tons of rice captured or destroyed.

C. Analysis of Reports

1. Analysts convert the number of rounds of ammunition and the number of weapons captured to tons, and catagorize enemy losses by class of supply, Corps area, and time period.

2. Losses are then compared to estimates of both enemy requirements and the capacity of the enemy logistic system, in order to determine the impact of these losses on the combat potential of the enemy forces.

ENEMY MANPOWER LOSSES

IV. Field data on enemy manpower losses are a combination of two series of data:

-- data that measure the effects of military operations such as KIA figures and PW figures

-- and data that estimate losses such as those dying from wounds and enemy desertions.

A. Reliability of the Data

1. The data series on enemy losses are particularly vexing. We know of factors that both overstate and understate the enemy's manpower losses. Both we and the field, however, lack the information needed to adjust the figures and are compelled, therefore, to accept them pretty much as given. Even with this limitation, the figures are reasonably accurate enough to give us reliable indications of the trends in enemy losses.

2. Our basic interest in quantifying manpower losses is to answer the fundamental question of the effect that attrition has on the enemy's force levels. Fortunately we can answer that question by using estimate techniques that need not rely on the data series for total manpower losses.

B. KIA Figures

1. KIA or killed-in-action, statistics are the best single

measure of the effectiveness of allied military actions against VC/NVA forces. KIA statistics were formerly referred to as a "body count" implying that they were based solely upon the number of enemy dead left on the battlefield. The realities of the battlefield require, however, that KIA reporting includes some estimating. Estimates, for example, are typically made after a fire-fight when our ground troops cannot patrol the battle-field.

2. KIA statistics are by no means a perfect measure of the number of enemy troops killed. It is always possible that civilians or non-combatants are included on our body-counts. On balance, however we do not believe that the KIA count grossly overstates enemy losses. Indeed, there is some evidence that the reported KIA understate enemy losses.

   a. Preliminary findings of an informal CIA study indicate that B-52 strikes kill a significant number of enemy troops. Few of these are included in killed in action statistics, because we rarely are able to observe the results of B-52 strikes.

   b. Tactical air strikes and artillery also kill additional VC/NVA soldiers. No attempt is made to estimate these losses.

C. Died-of-Wounds

1. MACV estimates the number of enemy troops who die or are disabled by wounds by multiplying the number of enemy killed by a factor of .35.

   a. This factor was derived from a MACV study made several years ago of the probable number of enemy troops wounded for each one killed, and, of those wounded, the numbers that could be expected to die during evacuation, die in hospitals, or be permanently disabled.

   b. Although MACV reports that the estimates underpinning the .35 factor were made from enemy captured documents, information on the disposition of battlefield wounded is tenuous and sometimes conflicting.

   c. For this reason, considerable caution must be exercised in the use of the series, and the possibility of a significant margin of error cannot be discounted.

D. Other Personnel Losses

1. This category includes simple desertion (contrasted to defection), permanent losses to sickness and accidents, retirements, discharges, and exfiltration to North Vietnam for additional training or reassignment. MACV has estimated this category at 2,000 per month during 1968.

2. This estimate for "Other Losses" may seriously understate such losses.

a. For example, an informal CIA study of desertions and defections conducted some time ago concluded that there may be 2.5 deserters for each defector. Enemy defections during 1968 were more than 1,000 per month suggesting. Thus, deserters and defectors may total 3,500 a month. Also ~~many enemy soldiers die of wounds and~~ losses due to accidents or to sickness, especially malaria, are known to be substantial.

3. We are currently conducting a study of captured enemy documents and interrogations to try to arrive at better estimates of desertions, sickness, and accidents.

ENEMY FORCE LEVELS

V. It is in the area of order of battle intelligence, or the assessment of enemy force levels that Washington and the field have had their greatest differences. These differences are significant because they bear directly on our judgments of the political and military capabilities of the enemy.

A. I have worked very closely with General Wheeler in an attempt to resolve these differences. For the past 10 months a CIA/DIA Working Group has worked to reach agreement in Washington and with CINCPAC/MACV. I am glad to report that CIA and DIA have reached agreement. CINCPAC and MACV have not concurred in our estimates but over the past year there has/some narrowing of the differences between the Washington been estimates and the field. I am hopeful that we will make even more progress in the next few months.

B. The problems arise because of a fundamental difference in our approaches to measuring enemy strengths.

1. MACV's approach is to compile in a meticulous and detailed fashion a listing of the strength and location of each individual unit. Before MACV will accept any unit certain rigid criteria must be met in terms of a minimum number of reports ~~on~~ prisoners from that unit. MACV also excludes units if he feels there is inadequate information to make a strength estimate, or if the unit

is newly formed or arrived but has not had contact with allied forces.

2. The Washington approach is more estimative and much less restrictive. In the first place we use all sources of intelligence.. If we know a unit exists but lack hard intelligence on its strength, then we will estimate its strength. We also estimate and include units whose presence has never been confirmed by MACV's acceptance criteria but whose existence is clear because of the manner in which the enemy is organized. Finally we make a rigorous attempt through analysis of infiltration and recruitment data to include in our estimates judgments that reflect the enemy's attempt to maintain the strength levels of his units.

3. I would also like to point out that the Washington estimates include organized irregular groups -- Self Defense Forces and Assault Youth -- that MACV does not quantify because they are not truly a military threat. We agree with MACV but feel that these groups provide support to military units and are an integral part of the enemy's organized resistance. Therefore we feel that they should be quantified as part of the intelligence necessary for national level assessments of the war in all of its political, security, and military ramifications.

C. Significance of the Differences

I claim no competence to judge the significance of our differences in terms of military strategy. My major concern about the differences in our figures are two:

1. The differences may become of major political importance if developments in Paris should lead to an agreement on the phased withdrawal of NVA troops which intelligence might be required to confirm or monitor. Our estimate of the NVA presence in South Vietnam is about 20,000-50,000 greater than the CINCPAC/MACV estimate.
2. Our differing estimates of guerrilla strength would have an important bearing on any estimate of the residual capabilities of VC forces should the NVA in fact be withdrawn.

Dec 1964

Table I

Communist Logistical Requirements
in South Vietnam

	Short Tons Per Day									
	I Corps		II Corps		III Corps		IV Corps		Of which,	
	Total	External	Total	External	Total	External	Total	External	Total	External
Class I (food)	104.00	25.00	47.00	24.00	57.00	11.00	28.00	negl.	236.00	60.00
Class II (clothing and equipment)	15.60	4.68	7.05	2.12	8.55	2.57	4.20	1.26	35.40	10.63
Class III (POL)	negl.	negl.	negl.	negl.	negl.	negl.	negl.	negl.	negl.	negl.
Class V (ammunition)	7.00	5.90	2.00	1.70	3.20	2.70	1.40	1.20	13.60	11.50
Total	126.60	35.58	56.05	27.82	68.75	16.27	33.60	2.46	285.00	82.13

(Supporting Information)

Comparative Order of Battle Estimates

1 January 1969

(thousands)

	CIA Estimates	MACV Estimates
Combat Forces		
NVA	105-125**	100
VC MR/LF	45- 55	37
Subtotal	150-180 **	137
Administrative Services		
NVA	10- 20	5
VC	45 -55	37
Subtotal	55- 75	42
Guerrillas	60-100***	59
Military threat	265-355	238
Political Infrastructure	80-100	82
Self Defense Forces	80-120	*
Assault Youth	10- 20	*

* Not Quantified

**This estimate excludes an estimated 28,000 NVA troops deployed north of the DMZ which include but are not limited to the 304th NVA Division, 320th NVA Division, 88th NVA Regiment of the 308th NVA Division, 102nd NVA Regiment of the 308th NVA Division. An estimated 20,000-25,000 of these NVA troops are serving in VC units.

***We believe that the military threat represented by the guerrilla forces is not on a parity with that of the main and local forces because probably only about one-third of the guerrillas are well armed, trained and organized.

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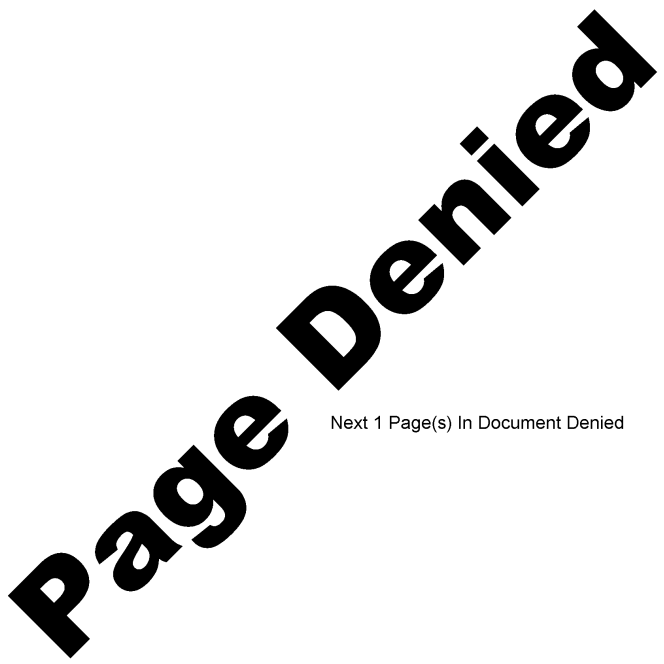

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Reported Trucks Sighted, Destroyed and Damaged in North Vietnam by Pilots and Effective Losses, 1966-1968

	Sighted	Destroyed	Damaged	Effective Losses *
1966	12,766	2,379	2,251	2,350
1967	30,468	3,530	2,134	3,180
1968 (Jan-Oct)	30,514	4,465	3,223	4,160
January	3,300	205	277	220
February	1,100	108	214	130
March	2,250	267	379	300
First Quarter	6,650	580	870	650
April	3,346	415	345	400
May	5,128	624	477	590
June	3,740	622	391	560
Second Quarter	12,214	1,661	1,213	1,550
July	4,868	944	343	790
August	3,336	707	369	620
September	1,958	315	236	300
Third Quarter	10,162	1,966	948	1,710
October	1,488	258	192	240

* Estimated by CIA and DIA to be 75 percent of those trucks reported destroyed, and 25 percent of those reported damaged. Effective losses are rounded to nearest unit of ten. Totals may not add because of rounding.

Trucks Reported Sighted, Destroyed and Damaged in Southern Laos * by Pilots and Effective Losses, 1967-1968

	Sighted	Destroyed	Damaged	Effective Losses **
1967	16,320	2,351	643	1,920
1968	51,835	6,555	849	5,130
January	6,737	1,021	113	790
February	5,093	750	36	570
March	5,933	843	98	660
First Quarter	17,763	2,614	247	2,020
April	9,181	1,321	103	1,020
May	6,018	562	78	440
June	2,434	289	8	220
Second Quarter	17,633	2,172	189	1,680
July	3,520	407	45	320
August	962	110	19	90
September	1,000	143	19	110
Third Quarter	5,482	660	83	520
October	1,043	149	44	120
November	4,395	304	86	250
December	5,519	656	200	540
Fourth Quarter	10,957	1,109	330	910

* Southern Laos, comprising the Steel Tiger air operations area in Laos, accounts for over 80 percent of the trucks reported by pilots to be sighted, destroyed and damaged.

** Estimated by CIA and DIA to be 75 percent of those trucks reported destroyed, and 25 percent of those reported damaged. Effective losses are rounded to nearest unit of ten. Totals may not add because of rounding.

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